

WHAT IS CLAIMED IS:

1. A gas barrier laminate film comprising a base material film and at least one gas barrier layer obtained by a sol-gel method, wherein a difference between oxygen transmission rate at 25°C in relative humidity of 10% and oxygen transmission rate at 25°C in relative humidity of 90% is within the range of 0 to  $1.0 \times 10^{-5}$  ml/m<sup>2</sup>·day·Pa.
2. The gas barrier laminate film according to claim 1, wherein a difference between oxygen transmission rate at 25°C in relative humidity of 10% and oxygen transmission rate at 25°C in relative humidity of 90% is within the range of  $1.0 \times 10^{-6}$  ml/m<sup>2</sup>·day·Pa.
3. The gas barrier laminate film according to claim 1, wherein the base material film contains a layered compound.
4. The gas barrier laminate film according to claim 1, wherein the base material film is constituted by a polymer having a glass transition temperature of 130 to 300°C.
5. The gas barrier laminate film according to claim 1, wherein the gas barrier layer is an organic/inorganic hybrid layer.
6. The gas barrier laminate film according to claim 5, wherein the gas barrier layer is formed by using a polymer having a hydrogen bond-forming group.
7. The gas barrier laminate film according to claim 6, wherein the hydrogen bond-forming group is hydroxyl group.
8. The gas barrier laminate film according to claim 1, wherein the base material film has a thickness of 5 to 500

μm.

9. The gas barrier laminate film according to claim 1, wherein the gas barrier layer has a thickness of 0.01 to 10 μm.

5        10. The gas barrier laminate film according to claim 1, which comprises at least one gas barrier layer between at least two base material films.

11. A substrate containing the gas barrier laminate film according to claim 1.

10        12. An image display device comprising the gas barrier laminate film according to claim 1.

13. The image display device according to claim 12, which is an organic EL device.

14. A method for producing a gas barrier laminate film,  
15 which comprises applying a solution containing at least one kind of metal alkoxide and a polymer having a hydrogen bond-forming group on a base material film and irradiating the solution with an electromagnetic wave to form a gas barrier layer.

20        15. The method for producing a gas barrier laminate film according to claim 14, wherein an alkoxysilane is used as the metal alkoxide.

16. The method for producing a gas barrier laminate film according to claim 14, wherein at least one kind of  
25 electromagnetic wave selected from the group consisting of electron rays, ionic rays and low temperature plasmas is used as the electromagnetic wave.

17. The method for producing a gas barrier laminate film according to claim 14, wherein a microwave is used as the electromagnetic wave.

18. The method for producing a gas barrier laminate  
5 film according to claim 14, wherein the electromagnetic wave is irradiated during a period immediately after completion of the application of the solution and before completion of drying of the solution.

19. The method for producing a gas barrier laminate  
10 film according to claim 14, wherein the electromagnetic wave is irradiated for 5 seconds to 3 minutes immediately after the application of the solution.

20. The method for producing a gas barrier laminate film according to claim 14, which comprises applying a  
15 solution containing at least one kind of metal alkoxide and a polymer having a hydrogen bond-forming group on a base material film and irradiating the solution with an electromagnetic wave to form two films, and bonding gas barrier layers of the films to each other.